

Grumman Now Offers Nationwide Computer Service

Recent acquisition of Arrow Electronics' maintenance group adds 2,500 accounts to GSS business

Grumman Systems Support recently acquired Arrow Electronics' computer maintenance group, adding 2,500 customers to its portfolio and making it a truly nationwide service company.

Grumman Systems Support is the computer maintenance unit of the Data Systems Division, and is headquartered in Woodbury, Long Island. The Arrow group adds 12 offices, with 85 employees, to its network. Grumman Systems Support now has 32 service offices nationwide.

Arrow is the second largest electronics distributor in the U.S. The acquisition includes an agreement for Grumman Systems Support to become the exclusive service agent for

Arrow's computer products distribution business. Grumman also inherits Arrow's status as the authorized service agent for six computer manufacturers.

"This acquisition not only adds to our current maintenance and service business, but through a continuing relationship with Arrow, we look forward to considerable future growth," says John O'Brien, president of Grumman Data Systems Division.

"Becoming a nationwide service company was our primary business goal for 1986," says Al Andrus, president of Grumman Systems Support. "We've now achieved that." Grumman's service scope has also

been expanded, from primarily mini-computers and smaller mainframes to include a wide variety of desktop computers.

Grumman Systems Support ranked seventh in sales among third-party computer maintenance suppliers, with approximately \$30 million in sales in 1985. The Grumman unit has also experienced the industry's third fastest growth rate.

"Third-party maintenance" refers to computer maintenance provided by a firm other than the manufacturer or the owner of the hardware. Third-party maintenance, a \$1 billion business in 1985, is expected to reach almost \$3 billion by

the end of this decade.

Andrus says computer manufacturers are still the predominant providers of such service. He expects their market share to decline, however. "They charge high prices for their service contracts," he points out. "That way, they can keep profits up when sales of equipment aren't good."

"Third-party maintenance firms offer service at a discount. Depending on the size of the installation and the location, it can be 30 percent less than a manufacturer's service contract."

Grumman Systems Support also recently signed an agreement with Tolerant Systems, a manufacturer of high-reliability minicomputers, to serve as its service rep.

"Other manufacturers have expressed an interest in teaming with Grumman now that we're nationwide," says Andrus.

Andrus notes that a survey by the Association of Field Service Managers ranked Grumman Systems Support at the top for customer satisfaction in 1985. "And we've been able to achieve that in times of high growth," says Andrus.

"As Grumman overall becomes more electronics-oriented, it will become more involved with other manufacturers' hardware," he adds. "Grumman Systems Support can now support whole networks of computers. That's a very attractive capability for an electronics-oriented company to have." ■



Making House Calls. Debbie Van Winklen (R) solders a connector for a computer printer, while Rick Bahrenburg (above) troubleshoots an IBM personal computer. Both work for Grumman Systems Support, the unit of Data Systems Division that does computer maintenance. It recently acquired Arrow Electronics' repair network.



Sign Space Commercialization Pact With Ethyl

On March 28, Grumman and Ethyl Corporation of Richmond, Virginia signed an agreement for a joint research and development project exploring the production of electronic semiconductor material in space.

The project will assess the effect of microgravity processing on the growth and performance characteristics of gallium arsenide crystals. The two companies believe that high performance semiconductor crystals can be manufactured in space for sale and distribution to the electronics industry.

Grumman and Ethyl have combined their experience in materials processing in space and crystal processing. Grumman has researched a

processing technique called directional solidification that shows promise for making high quality gallium arsenide crystals in space. Ethyl's Morgan Semiconductor Division in Garland, Texas, is an established manufacturer of gallium arsenide crystals and semiconductor wafers.

Gallium arsenide, a metallic compound, is used to make integrated circuits for digital and microwave devices, optical system components and other electronic devices. Gallium arsenide semiconductor crystals have some performance characteristics that are superior to silicon for certain applications but are more difficult and expensive to produce.

The low gravity environment of

space affords the opportunity to produce high quality gallium arsenide crystals — which could result in improved integrated circuits for high speed computers, microwave systems, radar and fiber-optic communications links.

Grumman is negotiating a joint endeavor agreement with NASA for Grumman and Ethyl to conduct a series of flight experiments in space aboard the Shuttle. The first proof of concept flight is proposed for 1988. Results from this experiment will compare earth-made and space-grown crystals to determine the effects of convection on crystal uniformity and electronic performance characteristics. ■

GSS Lands Justice Job

Grumman Systems Support (GSS) has landed its largest commercial contract.

TiSoft, Inc., a systems integrator for the Department of Justice, recently signed an eight-year, \$8-million agreement with this Data Systems Division computer hardware services unit.

In the first four years of the contract, GSS will maintain Data General mini-computer systems, and install and manage additional systems. The effort is valued at \$5-6 million. GSS will provide maintenance services during the second four years.

A GSS team from Gaithersburg, Maryland, near Washington, D.C., began work on April 1. The computers covered by this contract belong to the Civil Division of the Justice Department.

Twelve High School Seniors Win Grumman Scholarships

Six Grumman dependents selected for 1986 awards

With the annual arrival of crocus and baseball comes the announcement of the winners of the Grumman Science and Engineering Scholarships.

This year, 12 Long Island high school seniors have been named 1986 Grumman scholarship winners. Each will receive \$5,500 per year to defray tuition costs at the accredited engineering college of his/her choice.

About 250 high school seniors competed for the Grumman scholarships this year — up 30 percent over 1985.

The 1986 class of scholars includes six Grumman dependents. The company also selected four alternates, should a winner decline the scholarship.

The dependent scholars are:

Debora Arena of Smithtown High School West is the daughter of Aldo Arena, LAVI composite wing/vertical tail project leader, Building 9, Melville.

Jay Brunnwasser of John F. Kennedy H.S. in Bellmore is the son of Martin Brunnwasser, Electromagnetic Environmental Effects-F-14 group leader.

Melissa Chow of John F. Kennedy H.S. in Plainview is the daughter of Reuben Chow, staff scientist in the Corporate Research Center.

Laura Cordani of Half Hollow Hills H.S. East is the daughter of Adelchi Cordani, manager of Computer-Aided Engineering, Space Advanced Technology.

Jeffrey Dinkel of Ward-Melville H.S. in Setauket is the son of James Dinkel, group head, Performance Propulsion Flight Test.

Robert Misita Jr. of East Islip H.S. in Islip Terrace is the son of Robert Misita, senior research engineer, Research Technology Support and Operations.

Other 1986 scholarship winners are:

Lara Berkoski of Rocky Point Jr.-Sr. H.S.; **Mark da Silva** Longwood H.S., Middle Island; **Charles Dhopolsky** of Holy Trinity H.S., Hicksville; **Scott Loetman** of Wellington C. Mepham H.S., Bellmore; **Gregory Vilardi** of East Meadow H.S.; and **Olentha Von Redden** of Freeport H.S.

Should a scholar elect not to accept the tuition grant, an alternate will be offered the scholarship. The 1986 alternates are:

Thomas Costello of St. Anthony's H.S. in South Huntington, the son of Vincent Costello, group leader, EA-6B Operations Support; **Craig Devoe** of Hauppauge H.S., the son of George Devoe, simulation engineer with the Engineering Development Center; **Lisa Sobierajski** of Comsewogue H.S., Port Jefferson Station, the daughter of Joseph Sobierajski, F-14 Systems project engineer; and **Susan Rand** of Northport H.S.

Winners and alternates are offered summer jobs with Grumman during their college years and permanent jobs when they graduate. ■

Gov. Cuomo Addresses PAC

New York Governor Mario Cuomo will be the guest speaker at the annual Grumman Political Action Committee meeting on Wednesday, April 16, in Bethpage.

All Grummanites are invited to hear the governor speak at the PAC meeting in the Building 4 hangar at 4:30 p.m. The business portion of the meeting will be closed to non-members.



Hanging Gardens. Richard Migliorisi of Hydraulics works in an area nicknamed the 'Hanging Gardens' in Building 2, Bethpage. Dangling from the racks are over 5,000 'shugs' or templates — the master patterns for pipes used in Grumman aircraft and other products. The shop, which turns out an average of 12,000 pieces of tubing a month, is also doing a lot of work for space projects, including some heat pipes for RCA and GE. The pipes in the foreground are shop aids used in manual bending processes. (Photo by Bob Settles)

Headquarters Hosts Health Fair For Grummanites April 21-23

Visiting the Grumman Headquarters concourse this month might be beneficial to your health.

Grumman's Medical Department will be sponsoring a Health Fair on April 21, 22 and 23 from 11:30 a.m. to 4 p.m. Representatives from 40 organizations, as well as several departments at Grumman, will provide information on many of the major health issues facing Americans today.

The hours of the Fair have been scheduled so that day-shift employees would be able to attend during lunch or after-hours, and night shift personnel prior to starting work.

Through the fair, Grumman hopes to educate employees about healthy lifestyles and preventive health measures. It is also a way to make people aware of agencies they may call on in a crisis.

"Americans are more health conscious now than we were 20 years ago, but I don't know that we're necessarily healthier," says Ada Colter, Grumman's coordinator of nursing services. "The awareness is there, but the motivation to change one's lifestyle is often lacking. We hope the fair will motivate Grummanites to improve their health."

At each booth, attendees can pick up booklets and flyers or watch short films on a wide variety of topics. Each booth will be staffed by vol-

unteers who can offer advice.

Want to find out more about prevention and treatment of cancer, kidney disease, diabetes, and heart disease? The local chapters of those major foundations will all have booths. Groups combatting arthritis, Alzheimer's disease and sickle-cell anemia will also be on hand.

Less well-known organizations will have booths as well. One of those is Mothers' Center, a support group for working women with small children. Others include service agencies for the elderly and the handicapped.

Several alcoholism and drug abuse programs will have booths. The Nassau County Department of Health will present information on sexually transmitted diseases, and the Nassau County Police Department will have the inside of a rescue unit on display.

Grumman's Industrial Safety and Hygiene department will conduct screening for eye disorders. People from Grumman Benefits, Fire Protection, and Recreation will also be there.

Employee Services will be distributing maps of booth locations, as well as shopping bags so visitors can collect booklets. "We want to encourage all Grummanites in Bethpage to come down on lunch hour," says Colter. "We'd also like our night shift people to stop by during the day." ■

Obituaries

Frank Lucas of Material Operations, Calverton, Aircraft Systems, died March 10 at the age of 62. He had been with the company since 1955 and resided at 915 Flanders Rd., Riverhead, N.Y.

Edward J. Keating of Production Release and Analysis, Calverton, Aircraft Systems, died March 1 at the age of 64. He had been with the company since 1969 and resided at 129 Glen Rd., No. Babylon, N.Y.

John E. Elbe of Quality Procurement Material Management, Bethpage, Aircraft Systems, died March 13 at the age of 58. He had been with the company since 1962 and resided at 73-07 Juniper Val Rd., Middle Village, N.Y.

Robert J. Heuschneider of ILS Technical Writing, Bethpage, Aircraft Systems, died March 8 at the age of 55. He had been with the company since 1965 and resided at 37 Oak St., Smithtown, N.Y.

George H. Steljes Jr. of Technical Operations Management, Bethpage, Aircraft Systems, died March 7 at the age of 55. He had been with the company since 1960 and resided at 55 Nichols Rd., Nesconset, N.Y.

Edward W. Ziobro of Heat Treat, Bethpage, Aircraft Systems, died March 11 at the age of 34. He had been with the company since 1978 and resided at 491 Michigan Ave., Ronkonkoma, N.Y.

Wilbur D. Pettit of Corp. Instrument Ground Test, Bethpage, Aircraft Systems, died March

19 at the age of 56. He had been with the company since 1954 and resided at 39 Bedell Pl., Amityville, N.Y.

Daley O. Price of Quality Laboratory, Bethpage, Aircraft Systems, died March 20 at the age of 52. He had been with the company since 1962 and resided at 3 August Crescent, Commack, N.Y.

Stephen G. Kerekes of Public Affairs, Bethpage, Grumman Corporation, died April 1 at the age of 53. He had been with the company since 1955 and resided at 50 Mud Rd., Setauket, N.Y.

Retiree Obituaries

Matthew Chmela of 1490 San Charles Dr., Dunedin, Florida, died March 19. He retired in 1971.

John C. Corrigan of 302 Park Ave., Roosevelt, N.Y., died March 13. He retired in 1975.

Valouris A. Costa of 2465 Grand Ave., Bellmore, N.Y., died March 19. He retired in 1961.

Richard M. Cronin of 108 Smythe Ct., Apt. 201, Virginia Beach, Virginia, died March 10. He retired in 1984.

John Driscoll of 8326 Redfield Dr., Pt. Richey, Florida, died March 18. He retired in 1984.

Grumman LLV: 21st Century Pony Express

(Continued from cover)

"We currently produce 55 trucks a day, 15,000 trucks a year," says Allied President Ron Peterson. "We will be producing 75 postal vehicles a day, which brings Allied's daily production rate up to 130 vehicles — 33,000 a year."

To handle this billion dollar job, Grumman Allied has formed a separate division called the LLV Division.

Grumman has been working on the postal vehicle for over four years. In April of last year, the Grumman vehicle successfully completed the Postal Service's road test. "It was the only one out of three competitors to finish the grueling 24,000-mile test," says Peterson.

The Postal Service requirements are very specific. They call for a vehicle that will be on the roads for 24 years. Today's Jeeps last only six to seven years.

The all-aluminum riveted, no-weld Grumman body uses high quality aerospace grade materials with proven corrosion resistance. It is mounted on the rugged GM S-10 chassis — the same one used on the Chevy Blazer. Since its introduction in October 1981, the S-10 has undergone extensive testing by GM and has been used by Blazer owners since 1981. The 1985 model alone has accumulated more than 1.6 million miles of tests.

Since 1947, 80 percent of the Grumman vehicles built use GM chassis. "These vehicles have an outstanding reputation for durability throughout the delivery industry," says Peterson.

While Grumman's aluminum body is designed to last 24 years, GM's chassis has a life expectancy of 12 years. At the end of that lifespan, the Grumman body can be remounted on a new GM chassis.

In fact, maintaining the postal vehicle should be a snap. The Grumman/GM design is modular for easy replacement of components. All the daily maintenance items are accessible through the hood. The engine, transmission, driveshaft and axles can be replaced without having to disturb another unit. Body panels can be replaced by removing aluminum rivets; new side doors can be added using regular hand tools.

Assembly will take place at Allied's Montgomery, Pennsylvania,



Build To Last 24 Years. The Grumman Long Life Vehicle features an all-aluminum body to save weight and resist corrosion. The U.S. Postal Service projects a life expectancy of 24 years for the LLV, compared to eight years for its current vehicles. The new van, like the one-half-ton trucks now in use, will have a 1,000 pound cargo capacity — but it will be 800 pounds lighter.

plant. "Under the contract, the first vehicle must roll off the production line next April," says Allied Vice President Kip Towl, who is heading up the LLV effort. "Six months after that, we'll be up to full production — one postal vehicle every six minutes."

Aside from the 75 chassis needed every day, tons of aluminum will be gobbled up. Allied presently uses 27 million pounds of aluminum a year. With the postal vehicle, that annual poundage will increase to 42 million.

While the Montgomery plant is being prepared, the prototypes will continue to undergo extensive testing by both Grumman and GM. It needs to pass the Environmental Protection Agency (EPA) tests and the Federal Motor Vehicle Safety Standards test for crash worthiness.

It has already passed the big test — the Postal Service's durability course in Laredo, Texas. The no-holds-barred endurance test ran from 6 a.m. to 2 a.m. daily. From January 20 to April 28, 1985, the Grumman

entry accumulated 24,632 miles and was on the course 99.5 percent of the time.

During the competition, the vehicles had to run over 960 miles of Belgian block, 960 miles of potholes and 960 miles of cobblestones. To make things realistic, the vehicles had to haul a 1,000-pound load during half of the road test. During the other half, it had to carry a driver and a sandbag for a combined weight of 400 pounds. The other two competitors were never able to finish the endurance test. ■



Designed, Sealed For Delivery

The design of the Grumman Long Life Vehicle reflects a changing concept in transportation and delivery of mail.

The cargo area (at left) will allow the Postal Service to develop standard size containers for various types of mail. The concept will make the vehicle an actual container, in which specially designed mail receptacles may be removed from inside street collection boxes and snugly fit into the van. The layout of the driver's area and the cargo door will also make loading and unloading the van easier and safer for carriers.

All LLV's will have the steering wheel on the right side just as the current fleet of Jeeps. This especially makes it easier for mail carriers in rural areas to deliver the mail (L).



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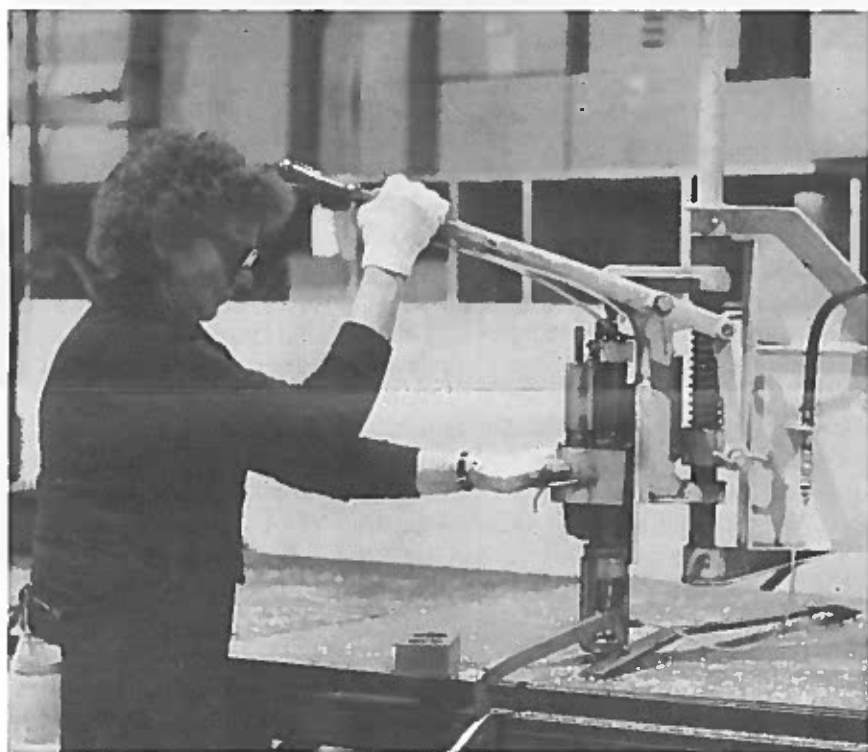
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Raring To Go. Scores of Grumman Olson trucks (above) are lined up in front of the Montgomery, Pennsylvania, plant. Grummanites such as Betty Brown (below) and Rodney Neuffer (R) build 13 Grumman trucks a day. They will be mass producing postal vehicles next year — 75 a day.



Soon To Pass. When the LLV production line gets rolling next year, Sherry Sharr (far R) and Ron Bennett will be operating a robot painter, instead of climbing scaffolds to spray paint trucks.



A Postal Vehicle Montgomery

MONTGOMERY, PA — This town with a population of 1,400 celebrates its 100th anniversary next year. It used to be the "Hardwood Capital of The U.S." until the flood of 1912 wiped out the hardwood forest and mills along the river.

There is still a lot to be done before Montgomery becomes "Postal Vehicle Capital of The U.S." — but Grumman has already received over 2,000 applications for 350 job openings. It will be months before the jobs are filled.

"We're talking about a manufacturing rate that general managers dream about," says general manager Bill McLean. Inside his office you can hear the faint tat-tat-tat of rivet guns in the shop area. Taped to McLean's office wall is a blueprint of the future Montgomery facility.

Next door, a dozen leadmen gather for their daily 9 a.m. meeting. Mention the postal vehicle, and they break into grins. "It's definitely a challenge," says leadman Dale Schaffer. "But we're Olson's most efficient truck plant. Over the past 14 years, we've built an array of Grumman products — from ambulances to Kurbmasters. We've always adapted."

Since it opened in 1972, this plant has taken on 12 new product lines. Scores of trucks fill the grass field in front of the plant. Row after row of chassis reside in the old cornfield in back.

Right now, 235 Grummanites build Kurbmasters and Kurbettes at a rate of 13 vehicles a day. Unlike the postal vehicle job, each truck is different. While one truck is built for Frito-Lay, the next one on the line is for Wonder Bread. Every truck is built to fit the customer's needs.

"I don't think the 75-a-day goal has hit everybody yet," says Bobby Sober, Electrical foreman. "People hear it, but can't imagine what it's really going to be like."

While there is no automation in Montgomery's present line, the postal vehicle assembly line will use a conveyor system from start to finish. The vehicle will move from work station to work station every six minutes.

"The Montgomery line will be similar to a Detroit production line," says McLean. In addition to consulting with GM, Grumman has visited Japanese automakers to view their operations.

Robotics will be used in the paint shop. Numerically-controlled machines will make detailed parts. Computers will play a big role in everything from inventory to production control.

Allied has enlisted Grumman Data Systems to help determine the work station operations. "They are setting up a computer program to simulate the assembly line — and all the things that can go wrong," says McLean. "For example, what hap-

le Every Six Minutes? ays, 'No Problem'

pens if someone is out sick? What if a part is not there at the work station? What if the robotic painter breaks down? All those potential problems have to be solved before hand, so we can respond quickly when the line gets underway."

Allied normally keeps a 30-day supply of parts and aluminum on hand. With the Postal Service job, it will use the "just in time" inventory system. "We can't possibly keep a month's supply on hand with a daily production rate of 75," says McLean. "Instead, we'll operate on a three-day supply. We'll be receiving material constantly from our vendors."

"One batch of bad parts would be disastrous, so quality control is extremely important," he adds. "Parts have to pass inspection before they ever reach the plant."

While construction is underway, the Grummanites will move to temporary quarters about eight miles away. "We'll gradually start phasing out production of Kurbmasters and Kurbettes," says McLean. That work will eventually go to Sturgis, Michigan, and Mayfield, Pennsylvania. By early 1987, the Grummanites will begin moving back to the facility.

A few Grummanites are a bit concerned about working on an assembly line. "We are studying various ways to reduce the monotony," says Bob Conniff, plant manager. "Team members will be trained to do each other's job at the work station. You might perform one job for seven minutes at a clip, and then switch over to another. Eventually, entire teams will be rotated from one work station to another."

The traditional daily meeting of leadmen will play an even bigger role when the postal vehicle line gets rolling. "You are never alone,"

says Max Baker, supervisor of Maintenance. "People don't say, 'that's his problem, let him solve it.' Everybody here chips in ideas to help the other guy."

Painters Ron Bennett and Sherry Sharr are anxious to begin training on the new robotic paint system. Both manually spray paint about five trucks a day.

"It's a great job opportunity," says Sharr. "I don't think we'll be bored at all." They won't be wearing paint overalls, hoods and masks to do their job. The robotic spray painter will do the work and they'll be operating and maintaining the robot. They might have to do quick touchups on any scratches or imperfections. "And, in an emergency, we'll step in if the robot breaks down," she says.

Grumman owns 32 acres south of the railroad track that cuts through Montgomery. On the east side of the property is the west branch of the Susquehanna River. Grumman's neighbors are farmers.

A new railroad siding will connect the Grumman facility to the main line. "The Postal Service has to distribute these vehicles all over the country," says McLean. "Some will go by rail, others by trailers and the remainder with drivers."

By the summer of 1987, there will be a steady stream of traffic in and out of the plant. Wider roads will be built. McLean says the local community — and the State government — are very enthusiastic about the postal vehicle being produced in Montgomery. "The farmers love it, because the value of their land is escalating," he says.

Before long, there'll probably be a billboard on Route 405: "Welcome to Montgomery, Postal Vehicle Capital of The U.S." ■



Their Pride And Joy. At the Corporate Development Center in Bohemia, L.I., the LLV team poses in front of the road-test vehicle: (L to R) Mill Beatty, Russ Smith, Tony Mule, Jack Bennett, Cliff Franklin, Jerry Cronin, Don White, Joe Moccio, Werner Langhauser, and Tom Malo. At Grumman Olson headquarters (below) in Sturgis, Michigan, Grummanites who worked on the design and prototype production of the LLV, and maintained the vehicle during the tests in Laredo, Texas, are: front row (L to R) Jim Taylor, Jim McIntyre, Rob Marino, Eric Moore, Chris Gentile, Mark West, Dave White, Randy Velie, Jeff Green, Dan Crafts, Jeff Kuhl, Greg Johnson, Mike Blankenship, Bob Drolet, and Bill Vanlandingham; back row - Dale Picker, Lee Keely, Rich Ripp, Jay Kessler, Trudy Willingham, Barb Loudenslager, Pete Lehman, and Ray Dekker.



A Stable Of Workhorses

Over six decades ago, before Louis Mazlish founded Riteway Launderers and Dry Cleaners, he depended on a delivery vehicle recognized by the crisp, rhythmic, "clip-clop" of its hoofs on cobblestone streets.

Today, 59 years after Riteway was born, Louis' son, Bob Mazlish and his 225 employees depend on Grumman Olson aluminum trucks to deliver crisp, clean clothes to 23,000 New York families.

In his fleet of 65 Grumman trucks, Mazlish has several that are more than 20 years old and still put in a hard day's work every day. "We pick up and deliver to our customers' homes in Brooklyn, Manhattan, Queens, Staten Island, Nassau and parts of Suffolk. We do quite a lot of work for executive dining rooms and we serve a lot of famous

people," says Mazlish, president of Riteway, which is the biggest such company in the New York metropolitan area.

Some of his trucks only have to make the short run from his

modern plant in Brooklyn to customers in the Battery Park area of lower Manhattan. But other Grumman Olsons have to take the wear and tear of stop and go traffic while making deliveries to homes on Long Island. "Our trucks on the Island average about 500 miles a week," he says.

"I have '62, '63, and '64 models, and even a 1960 that's still operating. Some of them have gone through two or three motors, so they have a few hundred thousand miles on them."

But Mazlish knows he can always find reliability in Grumman Olson trucks. That's why he ordered three new ones this year.



Three More On Order. Bob Mazlish, president of Riteway Launderers owns a fleet of 65 Grumman Olson trucks.

People

History Makers

"Gallery Of Greats: 20th Century Black Political Firsts" is a collection of 13 oil portraits honoring some of America's most outstanding black politicians. The collection is now on national tour.

Of the 13 honorees, two are Grummanites: George Brown and Edward Brooke.

Brown is Vice President-Washington Relations. He was the first black lieutenant governor elected since Reconstruction. He served as lieutenant government of Colorado from 1974 to 1979.

Brooke, a member of the board of directors, is a partner in the law firm of O'Connor and Hannan. He was the first black U.S. senator elected since the Reconstruction. He represented Massachusetts in the U.S. Senate from 1967 to 1979.

The "Gallery Of Greats" was commissioned by Miller Brewing Company and The Joint Center For Political Studies, the Washington-based black research organization. Clarence Shivers of Colorado Springs, Colorado, painted the portraits.

Whittle Wonders

From scrap pine he finds in the hoppers in Building 56, Glen Arm, Maryland, Bill Zaras whittles some impressive little models of aircraft — most of them Grumman birds.

Zaras, a milling machine operator, cuts out a rough silhouette with a band saw to save time. "The fuselage is one solid piece of pine, the wings are another," says Zaras. "Then I carve to eyeball scale, so each plane I do is a little different. I hand sand the pieces to get them smooth."

He's made about 30 models so far, and he only started whittling before last Christmas. Since then, Zaras has given away some of his models and sold a few others. Right now, he's working on a 727 jetliner for a co-worker and plans to try his knife at cars and ships soon. He's built several models for his two daughters and his son — but he's still trying to figure what to make for the whittler's kids' mother.



Modelling On The Side. Bill Zaras of Glen Arm, Maryland, spends his spare time whittling models of Grumman planes from scrap pine.



A Portrait Of Honor. Grumman Vice President George Brown (R) meets with artist Clarence Shivers at the unveiling of the "Gallery Of Greats" in Washington, D.C. The collection of oil portraits honors 13 of America's most outstanding black politicians. Two of the 13 honorees were Brown and Grumman board member Edward Brooke.

Roadside Rescue

A few weeks ago, Ron Collins was in a rush to get home from his job at the Allied Olson facility in Tulare, California. He was going to look at a house. But the house-hunt was delayed, while he saved somebody's life.

"I was giving one of the guys a ride home. After I dropped him off, I saw a crowd of people on the side of the road. Somebody was throwing water on this guy and slapping him in the face," says Collins.

A member of Tulare's new Special Emergency Response Team, Collins knew he had to stop and help.

The man wasn't breathing. Collins hesitated because he had just become an emergency medical technician in December. Although he had ridden an ambulance as part of his training, this was the first time he had the opportunity to use his training.

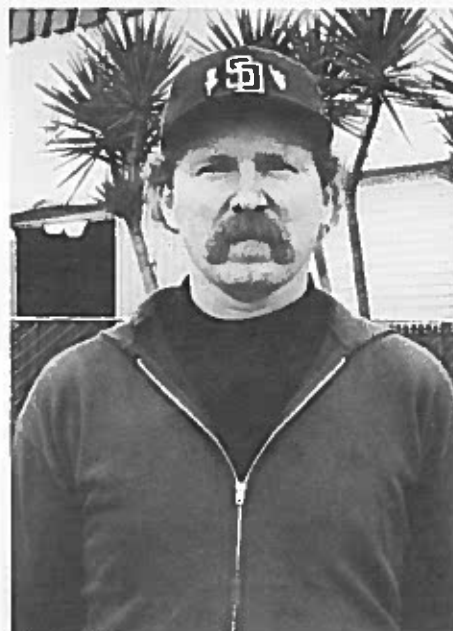
"I had to act or this guy was going to die," he says.

While he went to work on the man using mouth-to-mouth resuscitation, a bystander called an ambulance. When the ambulance arrived,

the medics took over for Collins.

"When I left he was breathing on his own." The next day, Collins learned that the man had survived.

Collins with his lifesaving experience will be an asset to Tulare's new Special Emergency Response Team — a six-member volunteer unit that would come to the rescue in the event of plant fires, chemical spills and medical emergencies.



Good Samaritan. Grummanite Ron Collins came to the rescue and saved someone's life on the way home from work at Grumman Allied's Tulare, California, plant.

Retirees

On behalf of our fellow workers, *Grumman World* salutes the following Grummanites for their contributions to the company and wishes them well in their retirement. Those who have recently retired are:

Henry J. Stutzenstein (12), William H. Rehm (110), Donald L. Ritter (40), Sidney Trink (12), Gerald Barber (1), George C. Jantzen (110), Theresa M. Hallenstein (77), Julius Lesser (12), Leon Sadoff (2), William L. Rohn Jr. (6), Glen Riley, Jr. (56), Robert W. McCormack (5), Frederick Scott (12), John Witovich (1), Richard G. Bisland (40), John Tarr (111), Gerald R. Stoodley (35), Gabriel Torok (6), Dorothy V. Shotts (28), Alfred Levertson (3), Walter A. Wells (40), Constance J. Haig (2), Harold Weigner (5), Wallace R. Terrel (1), Reuben Hafler (2).

Personals

My family and I wish to express our thanks and appreciation for the thoughtfulness expressed by my co-workers, friends and ESO during the recent loss of my mother. **Mary Cheshire**

My family and I wish to thank all of our friends at Grumman and ESO for their thoughtful support and sympathy during the recent loss of my father. **George W. Smith**

My family and I would like to express our sincere appreciation to all my friends at Grumman and ESO for their thoughtfulness and sympathy during the recent loss of my father. **Kathy Pulcrano**

My family and I would like to thank my friends, co-workers and ESO for their cards, flowers and kind words during the recent loss of my father. **Bernard Schultz**

My family and I extend our sincerest thanks to all of my friends and co-workers at Grumman and to ESO for their expressions of kindness and sympathy following the passing of my father James. **Paul Scollan**

We'd like to thank all our friends at Grumman and ESO for their thoughtfulness and sympathy during the recent loss of our father. **Louise Collura and Joe Marchesiello**

I wish to express thanks to my co-workers, friends and ESO for their expressions of sympathy during the recent loss of my mother. **Eva Rees**

My family and I would like to express our heartfelt thanks to all of our friends and co-workers for the kind expressions of sympathy we received during the recent loss of my father **DeWitt. Dick and Lynn Corney**

I would like to thank all my friends at Grumman and ESO for their kind expressions of sympathy during the recent loss of my wife **Stella. Raymond Benedict**

My family and I wish to express our sincere appreciation to all our friends, co-workers and ESO for their thoughtful expressions of sympathy during the recent loss of my father. **Carl Yannuzzi**

Many thanks to all my friends for their kind and thoughtful expressions of sympathy upon the death of my father **Max Hoch. Elaine Holskin and Family**

My family and I wish to thank all my friends, co-workers and ESO for their kind expressions of sympathy during the loss of my brother. **Anita Taylor**

My family and I wish to express our appreciation for the thoughtfulness expressed by my friends, co-workers and ESO during the recent loss of my sister. **Bernie Hoffman**

To all our friends at Grumman, we would like to express our sincere appreciation for your thoughtfulness in our time of sorrow. **June, Stephen and Natalie Sachman, and Bruce Bernard**

My family and I would like to express our sincere thanks and appreciation to all my co-workers and ESO for their kind expressions of sympathy during the recent loss of my mother. **Mike Stasko**

My family and I wish to offer our sincere and heartfelt thanks to our friends and co-workers for their kind expressions of sympathy during the very sudden loss of our father and husband. Your support and thoughtfulness has helped to make this very difficult time easier. **Elizabeth "Terry" Forte**

We wish to extend sincere thanks for all the kindness shown to us in our loss. **Mrs. Stan Simon and Sons**

My family and I wish to express our sincere appreciation and thanks to all our friends, co-workers and ESO for their kind expressions of sympathy during the recent loss of my father. **Jack Sanfelippo**

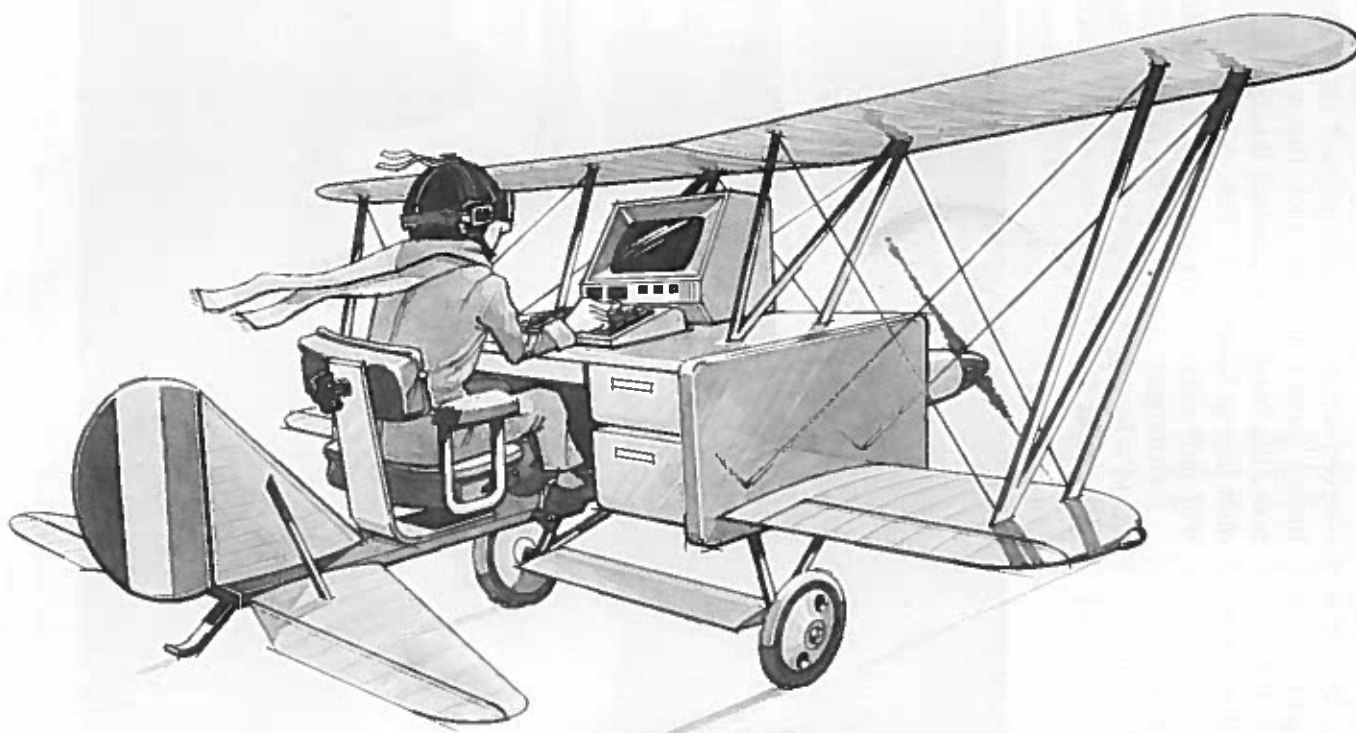
We wish to express our appreciation for the thoughtfulness expressed by my friends, co-workers and ESO during the recent loss of my mother. **Vic Scalone and Family**

My family and I wish to thank all my friends, co-workers and ESO for their kindness and thoughtfulness after the recent loss of my brother **Bob Allison. Marie Kane**

I wish to thank my friends, co-workers and ESO for their kind expressions of sympathy during the recent loss of my mother. **Jacqueline Josten**

We wish to express our sincere thanks and appreciation to all of our friends and co-workers for their kind expressions of sympathy during the recent loss of my husband **Robert. Linda Paterson and Family**

My family and I wish to express our appreciation for the thoughtfulness expressed by my friends, co-workers and ESO during the recent loss of my father **Harry V. Bartik. Betty Conlon**



Flying By The Seat Of Their Keyboards

"Easy to learn, and easier to use."
"Fully functional, high performance."
"As your needs change, so does our system."

Sound familiar? Competition is keen in the personal computer industry, and that has resulted in a lot of advertising hype and jargon.

One way Grumman helps PC users sift through all that is through user groups. People from a cross-section of the company meet to evaluate new products and exchange advice and information. The user groups also help keep Grumman's computer support people abreast of changing company needs.

"User groups really help Grumman get productivity out of its investment in PCs," says Judy Galgano, manager of Office Automation and Microcomputing Technology. "Anyone using a PC will gain something by attending one of these meetings."

There are two types of PC user groups. Key user meetings are held once a month for what Galgano calls PC gurus from about 20 departments. The less technical general user meetings are held bimonthly in the Grumman Headquarters auditorium and attract 100-150 people. Galgano says the split is essential, because most of what goes on at the first would bore the second group.

Key users also get the chance to participate in a high-tech form of test marketing. "When we buy a new

product, it must have general appeal," she says, "and the key user group gives us a way to 'test-fly' it in a few limited areas first to see how it will work."

In addition to commercial software, the key user group recently put together a directory of PC software developed by Grummanites.

Barbara Flegenheimer had never worked with a computer until just under two years ago. A marketing communications representative in the Corporate Marketing Department, she is one of the few key users with a non-technical background.

"Too often, the computer industry leaves a lot of capable people out in the cold," says Flegenheimer. "These people use a computer, but are not necessarily enamored of it. It is merely a tool to get their job done. The user group helps you stay abreast of the latest technologies, as well as in tune with the needs and frustrations of users in your area. Otherwise, an expensive and valuable tool will gather dust."

Flegenheimer began using her Compaq PC to track hundreds of promotional events and produce detailed reports. These reports ultimately help management decide which events it will participate in, and the extent of that participation.

"It's easy to become intrigued with the latest and fastest in new technology," Flegenheimer adds. "The user meetings help you sort out the

benefits of new hardware and software and whether they're worth pursuing."

"The user groups are vital because one person can't possibly keep track of everything that comes out on the market," says Tom Eckert, another key user. Eckert is project leader for office automation in Business Operations - Services Division. "Through it, the user can also air problems — either organizational, or with the software."

In Business Operations, the manual calculations of financial specialists have been replaced with computer modelling and spreadsheet packages. "Most of the people in Business Ops come from business administration backgrounds," says Eckert, who began at his Grumman career as a systems analyst a decade ago. "They are the people PCs were really designed for."

Not long ago, Eckert's group was having a problem with a database package. By discussing it at a key user

meeting, Eckert learned where the glitch was, and the appropriate solution.

As key users, both Eckert and Flegenheimer work at developing computer applications for their departments, and help users with any problems they encounter. "Many people are afraid of computers, but once they start to use one, they take to it like a duck to water," says Eckert. "In our group, there are some people who had trouble at first. Now, they're doing relatively sophisticated work on their own."

The people in the PC key user and general user groups all use IBM PCs or compatible machines. Just recently, a group was begun for about 50 Apple Macintosh users. Apple computers are very different from IBMs, so any information presented at an IBM user meeting wouldn't be germane to the Apple.

The agenda at a general user meeting could include a demonstration on a PC of a new software package. These demos can be elaborate — one meeting featured a Wang VS-15 (which is on the small end of the mini-computer spectrum). The purpose was to show the benefit of using a shared system rather than a stand-alone PC.

Other meetings dissect important industry issues, such as copyright protection and infringement. Since Grumman wants employees to follow the letter of the law, the meetings are a good forum to educate people about just what the laws are.

There has been one attempt to get a group started off Long Island. Last year, a two-day user meeting was held in Milledgeville, Georgia for Grummanites working in the southeast.

The general users meetings are open to anyone in the company with a PC. For information on the general meetings, contact Barbara Mencher at Ext. (111) 59944. For info on the key user groups, contact Galgano at Ext. (111) 54390. ■



Soft Sell. Kal Ginsburg, an estimating analyst in Corporate Estimating, Building 5 in Bethpage, finds a personal computer invaluable in projecting the costs to produce software for aircraft avionics and ground systems.



Familiarity Breeds Quality. Ken Dellow makes deck caps for Grumman canoes. He's been working on this press for 32 years at Grumman Allied Division's aluminum boat building facility in Marathon, New York.

GrummanWorld

April 11, 1986

Postal Service Delivers Good News: Orders 99,150 Grumman Vehicles

Nationwide, Grumman trucks will be delivering mail well into the next century. On April 8, the U.S. Postal Service's board of governors awarded Grumman a \$1.1 billion contract to build 99,150 trucks — the largest contract in the company's history. An option for 59,490 vehicles would bring the contract award total to \$1.8 billion over nine years.

Called Long Life Vehicle (LLV), these trucks will replace the Postal Service's fleet of Jeeps used for mail cargo delivery. Grumman will fabricate the vehicle's aluminum body and be

responsible for final assembly. As major subcontractor, General Motors will provide the chassis.

"This is a classic way for a company to grow — even when it's pushing itself in main product lines," says Chairman Jack Bierwirth. "Until now, the truck business had not been a major product line at Grumman. This side of the company will now carry a full share of the weight."

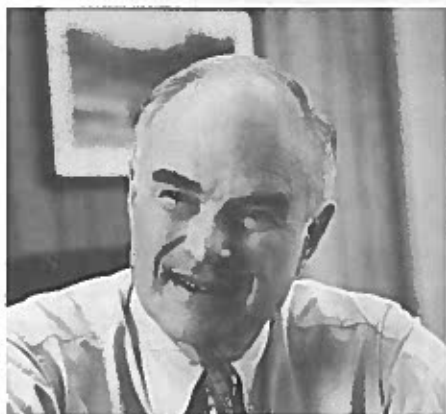
Grumman Allied's Olson division is the world's largest manufacturer of aluminum trucks. More than 185,000 have been built since 1947.

(Continued on page 3)



The First Of Thousands. This Grumman postal vehicle was on hand in Atlanta, Georgia, when the U.S. Postal Service announced that Grumman had won a \$1.1 billion contract to produce 99,150 Long Life Vehicles. The award is the largest in company history. Production of the LLV gets under way in Montgomery, Pennsylvania, next year.

A Letter From The Chairman



The United States, asserting its right to sail in international waters, defied Muammar Khadafy on March 27 and thundered past his self-proclaimed "line of death" into the Gulf of Sidra. Libya fired missiles at American planes, and all of them missed — but in retaliation, American planes sank Libyan patrol boats and knocked out a Libyan radar and missile station.

Of the 250 American planes involved in the showdown, many of them — A-6 Intruders, EA-6B

Prowlers and E-2C Hawkeyes — were made by Grumman.

Our airplanes did the job they were made to do, and we can be proud of their performance.

It isn't easy to do your job every day as if someone's life depends on it. The importance of building a quality product isn't always demonstrated as dramatically as it was at the Gulf of Sidra. But that dedication to quality is required by Grummanites in many parts of the company — and not just the people who build our airplanes. The products we build for NASA, our firefighting equipment, our trucks, even our boats and canoes all have to be the best we can make them: people's lives depend on it.

When Grumman bought the bus company a few years back, we bought the bus designs along with it. And when there were problems, we went back and made an effort to put things right — an effort that not many

companies would have made. But we did it because the Grumman name was on the product, and because it was the right thing to do.

If there's one thing that sets Grumman apart from other companies, I think it's the day-in, day-out ability to concentrate on doing a quality job.

Every once in a while, when one of our products performs in the limelight the way our planes did in the Gulf of Sidra, there's a kind of reward for us. We experience an emotional rededication to our principles, a new appreciation for our heritage, a new reason to continue to do things right.

John C. Bierwirth
Chairman

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